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(54) **WIRELESS COMMUNICATIONS WITH FREQUENCY BAND SELECTION**

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(57) **ABSTRACT**

A probe, listen and select (PLS) technique can be used to select from an available frequency spectrum a frequency band whose communication quality is suitable for wireless communication at a desired rate. Probe packets can be transmitted on different frequencies (**223**) during a known period of time (T_{PLS}), and frequency channel quality information can be obtained (**225**) from the probe packets. This quality information can then be used to select a desirable frequency band (**227**). The communication quality of the selected band can also be used as basis for selecting (**141**) from among a plurality of modulation and coding combinations that are available for use in communications operations.

MODE	DATA RATE (Mbps)	TARGET APPLICATION	RECEIVER SENSITIVITY	POWER CONSUMPTION ('2001)	
				Rx AVERAGE	Tx AVERAGE
MODE 1.0 (BLUETOOTH)	1 Mbps		-84 dBm	25 mW	15 mW
MODE 2.0	2.6-3.9 Mbps	AUDIO	-78 dBm	30 mW	20 mW
MODE 3.0	22-44 Mbps	VIDEO, COMPUTER GRAPHICS	-69 dBm	95 mW	60 mW